Mountain Pine Beetle Survey
Bechler Area
Yellowstone National Park, Wyoming
1969

The Bechler South Entrance area was inspected and a survey conducted, September 2 to September 12, to determine the advance and intensification of the current Mountain Pine Beetle epidemic.

The survey indicates another year of heavy increase in trees attacked and the intensity of attack in individual trees is very severe. This applies in general to the Bechler-Cave Falls area--the perimeters of the epidemic seem relatively stable, but do show an increase. The survey was extended to cover the South Entrance and surrounding area and light infestation was noted, although the timber in this area is not the extensive mature and over mature type needed to sustain an epidemic in light of current Forest Service research.

1969 SURVEY

AREA SUB-AREA	TOTAL ACRES	New Attacks 1966 Per Acre	1966 Total	1967 Per Acre	1967 Total	1968 Per Acre	1968 Total	1969 Per Acre	1969 Total
1 A	4456					.09	401	.9	4,000
B	4710					1.71	8,054	2.8	13,000
C	5734					12.06	61,592	24.4	140,000
Total	14,900					5.18	77,182	10.5	157,000
2 A	4,277	*.94	*2626	*4.5	*12,591	17.07	73,008	43.	18,400
B	2,764	*.57	*1739	*1.9	* 5,798	15.28	42,223	83.6	231,000
C	4,695	--	--	--	--	4.63	21,571	11.3	53,000
Total	11,700	*.75	*4365	*3.09	*18,389	11.81	13,177	40.	468,000
A	8,320							11.9	98,600
B	2,560							2.0	5,100
C	3,980							.6	2,400
D	1,280							.2	200
Total	15,140							7.02	106,300
Plots 1	6,400					.08	512	2.1	13,500
2	6,400					1.54	9,856	6.6	42,000
3	6,400					1.72	11,008	5.8	37,000
4	6,400					2.70	17,280	19.6	93,250
5	6,400					.47	3,008	12.7	81,500
Total	32,000					1.56	49,920	8.35	267,250
TOTAL ALL AREAS	73,740	.75	4365	3.09	18,389	6.09	265,279	13.54	998,550

*Estimated Figures Based on Prior Surveys of Different Acreage in Same Area.

	1966	1967	1968	1969
New Attacks Per Acre on Original 5,850 Acres	.75	3.09	19.08*	58.94*
BU Ratio		4:1	6.2:1	3.1:1
New Attacks Per Acre on 58,600 Acres-1968			6.20	15.22
BU Ratio				3.4:1
New Attacks Per Acre on 73,740-1969				13.54

*Estimated based on prior surveys of different acreage in same areas.

1968 SURVEY

AREA SUB-AREA		Total Acres	Strip Acres Sampled	Percent Of Cruise	Old Attacks Sampled Area	New Attacks		
						Total Sampled Area	Per Acre	Total
1	A	4456	44	1%	1	4	.09	401
	B	4710	46	1%	29	79	1.71	8054
	C	5734	56	1%	176	674	12.06	61,952
Total		14,900	146	1%	206	757	5.18	77,182
2	A	4277	38	1%	189	692	17.07	73,008
	B	2764	21	1%	96	321	15.28	42,233
	C	4659	44	1%	59	204	4.63	21,571
Total		11,700	103	1%	344	1217	11.81	138,177
Plots	1	6400	12.8	.2%	1	1	.08	512
	2	6400	27.2	.4%	12	42	1.54	9856
	3	6400	12.8	.2%	11	22	1.72	11,008
	4	6400	27.2	.4%	23	74	2.7	17,280
	5	6400	12.8	.2%	--	6	.47	3008
Total Plots		32,000	92.8	.29%	47	145	1.56	49,920
TOTAL SURVEY		58,600	341.8	.6%	570	2119	6.20	265,279

MAPSCALE = 2 inches to the mile

STRIP WIDTH = 1/5 Chain

Numbers indicate new attack, recorded at 10 chain intervals.

PLOT #1

Plot #1 slopes generally to the south with Boundary Creek running from north to sough through the plot. Cascade Creek enters the plot on the east and joins Boundary Creek at the midpoint of the plot.

Buffalo Lake is located about midpoint on the south boundary.

The timber type seems to be a predominately pole-to-mature class of Lodgepole pine. Along the northeast corner, there is a small amount of Spruce-Fire forest on a shelf of the Madison Plateau.

Elevation varies from 7,000 to 8,000 feet.

YEAR	PER CENT CRUISE	OLD ATTACK	NEW ATTACK	NEW ATTACK PER ACRE	REMARKS
1968	.2	500	512	.08	
1969	.2	2,500	13,500	2.11	Increase proportional throughout plot.

PLOT #2

Plot #2 slopes generally to the west from 8,000-foot elevation in the northeast corner to Boundary Creek, which flows south along the west edge of the plot. The northeast corner is generally flat but drops sharply into Boundary Creek at about 6,500 - 7,500-foot elevation.

The upper portion consists mainly of open mature and smaller lodgepole with an occasional overmature tree. Most of the over-mature lodgepole pine were in the vicinity of Boundary Creek and the sharp elevation change with about a consistent 50% of Spruce and Fir throughout the length of the plot.

YEAR	PER CENT CRUISE	OLD ATTACK	NEW ATTACK	NEW ATTACK PER ACRE	REMARKS
1968	.4	2816	9856	1.54	
1969	.4	18,500	42,000	6.56	Increase propotional throughout plot

PLOT #3

Plot #3 slopes generally to the west with a south-facing slope in the southern portion.

Elevation varies from 8,300 in the northeast corner to 6,800 in the southern portion.

Ouzel Creek flows from north to south on the east boundary to exit into the Bechler River which flows along the southern border. Lake Wyodaho is situated in the southcentral section and Ranger Lake is in the southeast corner.

The upper portion of the plot consists of open mature and smaller lodgepole. Along the sharp elevation drop in the southern section, a constant Spruce-Fire (50%) forest exists.

YEAR	PER CENT CRUISE	OLD ATTACK	NEW ATTACK	NEW ATTACK PER ACRE	REMARKS
1968	.2	5500	11,008	1.72	
1969	.2	5000	37,000	5.78	Northern half of plot pretty much stable. Southern portion had significant increase, though.

PLOT #4

Plot #4 lies predominately in the Falls River Basin with the northern portion extending up and over the crest of the Pitchstone Plateau. The plot has a general southern slope with Mountain Ash Creek flowing into the plot at the northeast corner and exiting midway along the southern border.

Elevation is fairly consistent from 6,402 in the Basin area to 7,200 on the crest of the Plateau.

The timber type on this particular plot consists in the Basin area with a 50% covering of Spruce-Fire forest on the abrupt ridge in the northern section. A small portion of the southeast corner extends into the Birch Hills with some Spruce-Fire in this area.

YEAR	PER CENT CRUISE	OLD ATTACK	NEW ATTACK	NEW ATTACK PER ACRE	REMARKS
1968	.4	5440	17,280	2.7	
1969	.4	2750	93,250	14.57	Quite an increase (more than double) in lower portion of plot. Upper ½ about the same as '68.

PLOT #5

Plot #5 slopes generally to the south with the northwest corner sloping to the west. Beula Lake is in the southeast corner with the Falls River draining south from the Lake. The Pitchstone Plateau trail runs through the middle of this plot from north to south.

Elevation in the area varies from 7,000 to 8,000 feet. The plot lies on the crest of the Pitchstone Plateau area.

The timber type is primarily 50% Spruce-Fir along the crest of the Plateau area with the rest of the area consisting of mature lodgepole (open) to an occasional overmature tree. This latter portion extends both above and below the crest.

YEAR	PER CENT CRUISE	OLD ATTACK	NEW ATTACK	NEW ATTACK PER ACRE	REMARKS
1968	.2	----	3008	.47	
1969	.2	1400	81,500	12.73	Big increase (approximately 24 times as many bug) evenly distributed throughout plot.

PLOT #1
TOTAL ACRES 6400
% CRUISE 0.2
OLD ATTACKS 2500
NEW ATTACKS 13500
NEW ATTACKS/ACRE 2.1

PLOT #2
TOTAL ACRES 6400
% CRUISE 0.4
OLD ATTACKS 18,500
NEW ATTACKS 42,000
NEW ATTACKS/ACRE 6.6

PLOT #3
TOTAL ACRES 6400
% CRUISE 0.2
OLD ATTACKS 6000
NEW ATTACKS 37,000
NEW ATTACKS/ACRE 5.8

PLOT #4
TOTAL ACRES 6400
% CRUISE 0.4
OLD ATTACKS 2750
NEW ATTACKS 93250
NEW ATTACKS/ACRE 14.6

PLOT #5
TOTAL ACRES 6400
% CRUISE 0.2
OLD ATTACKS 14000
NEW ATTACKS 81500
NEW ATTACKS/ACRE 12.7

AREA #1 SUB-AREA #A
TOTAL ACRES 4456
% CRUISE 0.1
OLD ATTACKS 0
NEW ATTACKS 4000
NEW ATTACKS/ACRE 0.9

AREA #1 SUB-AREA #B
TOTAL ACRES 4710
% CRUISE 0.1
OLD ATTACKS 1000
NEW ATTACKS 13000
NEW ATTACKS/ACRE 2.8

AREA #1 SUB-AREA #C
TOTAL ACRES 5734
% CRUISE 0.1
OLD ATTACKS 13,000
NEW ATTACKS 140,000
NEW ATTACKS/ACRE 24.4

TOTALS FOR AREA #1
TOTAL ACRES 14900
% CRUISE 0.1
OLD ATTACKS 14000
NEW ATTACKS 157000
NEW ATTACKS/ACRE 10.5

AREA #2 SUB-AREA #A
TOTAL ACRES 4277
% CRUISE 0.1
OLD ATTACKS 9100
NEW ATTACKS 184,000
NEW ATTACKS/ACRE 43.0

AREA #2 SUB-AREA #B
TOTAL ACRES 2764
% CRUISE 0.1
OLD ATTACKS 38,000
NEW ATTACKS 231,000
NEW ATTACKS/ACRE 83.6

AREA #2 SUB-AREA #C
TOTAL ACRES 4659
% CRUISE 0.1
OLD ATTACKS 13000
NEW ATTACKS 53000
NEW ATTACKS/ACRE 11.3

TOTALS FOR AREA #2
TOTAL ACRES 11700
% CRUISE 0.1
OLD ATTACKS 60100

AREA #3 SUB-AREA #A
TOTAL ACRES 8320
% CRUISE 1.0
OLD ATTACKS 19900
NEW ATTACKS 98600
NEW ATTACKS/ACRE 11.9

AREA #3 SUB-AREA #B
TOTAL ACRES 2560
% CRUISE 1.0
OLD ATTACKS 200
NEW ATTACKS 5100
NEW ATTACKS/ACRE 2.0

AREA #3 SUB-AREA #C
TOTAL ACRES 3980
% CRUISE 1.0
OLD ATTACKS 100
NEW ATTACKS 8400
NEW ATTACKS/ACRE 0.6

AREA #3 SUB-AREA #D
TOTAL ACRES 1280
% CRUISE 1.0
OLD ATTACKS 100
NEW ATTACKS 200
NEW ATTACKS/ACRE 0.2

TOTALS FOR AREA #3
TOTAL ATTACKS 15,140
% CRUISE 1.0
OLD ATTACKS 20,300
NEW ATTACKS 106,300
NEW ATTACKS/ACRE 7.0

T. 12 N.
T 51 N
T 50 N
T 50
T 49 N
T 49 N
T 48 N
R. 45 E.
R. 46 E.
R. 118 W.
R. 117 W.
R. 116 W.
R. 115 W.
R. 114 W.
111°10'
44°08'
20'
40'
30'
50'
111°

CONTINENTAL DIVIDE
PITCHSTONE PLATEAU
SHOSHONE LAKE
LEWIS LAKE
RED MOUNTAINS
CASCADE
Grant Campground
Grants Pass
Cement Hills
Patrol Cabin
Shoshone Geyser Basin
Old Park Bdy Base Mon
Trischman Knob
Douglas Knob
Madison Lake
Buffalo Lake
Three River Junction
Hot Springs
Ragged Falls
Tendoy Falls
Twister Falls
Quiver Cascade
Littles Tempe Cascade
Phillips Fork
Ferris Fork
Group Creek
Outlet Creek
Treasure Island
Iris Falls
Colonnade Falls
Ouzel Falls
Boundary Creek Patrol Cabin
Bechler Meadows
Bechler River Ranger Station
Robinson Lake
Lilypad Lake
Marysville Road
Proposition Ash Mountain
Bechler Falls
Cave Falls
Silver Scarf Falls
Rainbow Falls
Terraced Falls
Cascade Acres
Initial Falls
Winegar Hole
Phantom Campsite
Phantom Fumarole
Crawfish Creek
Union Falls
Beula Lake
Hering Lake
Tanager Lake
Snake River Ranger Sta
South Entrance
Cable Car
Lewis Falls
Lewis Lake Campground
Aster Creek Patrol Cabin
Aster Lake
Factory Hill
Heart Lake Geyser Basin
Mount Sheridan
Lookout House
Sheridan Lake
Riddle Lake
Solution Creek
Heart Patrol
Snake Hot Springs
Forest Lake
Moose Creek
Pocket Lake
Summit Lewis River
Dogleg
Lewis Canyon
Heart Lake Trail
South Entrance Trail
Grand Loop Road
Yellowstone Park Boundary
Idaho Wyoming
Boundary Creek
Bechler River
Falls River
Basin
Cascade Creek
Aster Creek
Heart River
Snake River
Lewis River
Riddle Creek
Sheridan Creek
Rustic Geyser
Hot Springs
Lookout Station
Snake River Lookout Station
Yellowstone Park Boundary
Mileage to Old Faithful
Mileage to Lake
Mileage to Grant
Mileage to Canyon
Mileage to Fishing Bridge
Mileage to West Thumb
Mileage to Flagg Ranch
Mileage to Grand Teton Park
Mileage to Moran
Mileage to Jackson
Mileage to Yellowstone Park Boundary
Mileage to Old Faithful
Mileage to Lake
Mileage to Grant
Mileage to Canyon
Mileage to Fishing Bridge
Mileage to West Thumb
Mileage to Flagg Ranch
Mileage to Grand Teton Park
Mileage to Moran
Mileage to Jackson
Mileage to Yellowstone Park Boundary
22 MI. TO IDAHO 32
ASHTON, IDAHO 26 MI.
MORAN 22 MI.
JACKSON 57 MI.
89
287

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Compiled from 1:62 500-scale, 15-minute maps, surveyed 1955-1960. Partial cultural revision 1961

Depth curves and soundings compiled from data supplied by the U. S. Fish and Wildlife Service 1961

Polyconic projection. 1927 North American datum
50,000-foot grid based on Wyoming coordinate system, west zone

Dashed land lines represent theoretical Township and Section

250 000 FEET

SCALE

CONTOUR IN
DATUM IS

THIS MAP COMPLIES WITH NA

PREPARED FOR THE NATIONAL PARK